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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,383	10/11/2002	Hippo Wu	9736-US-PA	1021
31561	7590	03/24/2004	EXAMINER	
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE 7 FLOOR-1, NO. 100 ROOSEVELT ROAD, SECTION 2 TAIPEI, 100 TAIWAN			MOORE, KARLA A	
			ART UNIT	PAPER NUMBER
			1763	

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/065,383

Applicant(s)

WU ET AL.

Examiner

Karla Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 October 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 7 and 10-11 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,752,796 to Muka.

3. Muka discloses a dust-proofing device (column 10, row 15 through column 11, row 12; Figures 5, 6 and 6A-6E, 190) setup next to a wafer entrance (22) of a processing station, the dust proofing device comprising: a gas pump (column 10, rows 26-27; 192) for pumping gases; a gas filter (78) having a gas inlet port connected to the gas outlet port of the gas pump, wherein the gas filter removes dust particle suspended in the gas; a gas outflow unit (202) connected to the gas outlet port of the gas filter, wherein the gas outflow device blows out a laminar layer of gas; and a gas inflow device (204) connected to the gas inlet port of the gas pump, wherein the gas blown out of the gas outflow unit is returned to the gas pump via the gas inflow unit; wherein the gas outflow unit and the gas inflow unit are setup facing each other with a spatial gap between the two, the spatial gap is a channel for wafers going into or out of the processing station, a curtain formed by blowing from the gas outflow unit to the gas outflow unit flows in a direction parallel to the surfaces of the wafers so that the fluid is able to sweep over the upper and lower surfaces of the wafer.

4. With respect to claim 10, the processing station includes a reaction furnace (column 5, rows 8-12).

With respect to claim 11, which is drawn only to a type of gas used in the device, the courts have ruled that expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-2 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,752,796 to Muka in view of U.S. Patent Publication No. 2003/0113189 A1 to Kaji et al.

5. Muka discloses the invention substantially as claimed and comprising: a dust-proofing device (column 10, row 15 through column 11, row 12; Figures 5, 6 and 6A-6E, 190) setup next to a wafer entrance (22) of a processing station, the dust proofing device comprising: a gas pump (column 10, rows 26-27; 192) for pumping gases; a gas filter (78) having a gas inlet port connected to the gas outlet port of the gas pump, wherein the gas filter removes dust particle suspended in the gas; a gas outflow unit (202) connected to the gas outlet port of the gas filter, wherein the gas outflow device blows out a laminar layer of gas; and a gas inflow device (204) connected to the gas inlet port of the gas pump, wherein the gas blown out of the gas outflow unit is returned to the gas pump via the gas inflow unit; wherein the gas outflow unit and the gas inflow unit are setup facing each other with a spatial gap between the two, the spatial gap is a channel for wafers going into or out of the processing station, a curtain formed by blowing

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from the gas outflow unit to the gas outflow unit flows in a direction parallel to the surfaces of the wafers so that the fluid is able to sweep over the upper and lower surfaces of the wafer.

6. However, Muka fails to teach the dust-proofing device set up between a front opening unified pod (FOUP) door opening device and a processing station. Additionally, Muka fails to teach an inner door setup close to the FOUP.

7. Kaji et al. teach setting up a purifying device (82) between a processing station (Figure 2, A) and a FOUP (32Aa-32Ag) with an inner door setup close to the FOUP (64) for the purpose of introducing purified air that prevents the risk of dust being transferred between the processing station and the FOUP (paragraphs 33 and 46).

8. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a dust proofing device setup between a processing station and a FOUP in Muka et al. in order to introduce purified air that prevents the risk of dust being transferred between a processing station and a FOUP as taught by Kaji et al.

9. With respect to claim 2, in Kaji et al., the space between the inner door and the dust proofing device further includes an outer door (paragraph 36, rows 2-6).

10. With respect to claim 5, the processing station includes a reaction furnace (column 5, rows 8-12 of Muka; A3 in Kaji et al.).

6. With respect to claim 6, which is drawn only to a type of gas used in the device, the courts have ruled that expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969).

7. With respect to claim 4, the courts have ruled that an express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. In re Fout, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). Muka clearly states that means for providing airflow are necessary to practice the invention. A fan/pump is disclosed as the airflow means. However, one of ordinary skill in the art would realize that an "air blow drum" would be an equivalent means for providing the airflow. Applicant does not provide any insight in the specification or claims as to how/why an "air

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blow drum" would function any differently than the airflow means disclosed in the prior art or insight as to any benefit the "air blow drum" would have that the means disclosed in the prior art lacks. One of ordinary skill in the art would recognize the airflow means of the prior art and the "air blow drum" of the presently claimed invention are equivalent components and that substitution one for the other would be obvious.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muka in view of Kaji et al. as applied to claims 1-2 and 4-6 above and further in view of U.S. Patent No. 5,562,383 to Iwai et al.

9. Muka and Kaji et al. disclose the invention substantially as claimed and as described above.

11. However, Muka and Kaji et al. fail to teach the gas outflow unit further includes a plurality of small pipelines therein.

12. Iwai et al. teach the use of a gas blowing opening with a plurality of small pipelines for the purpose of creating a side flow of clean air for sweeping across wafers in a cassette (column 10, rows 27-35).

13. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a plurality of small pipelines in the gas outflow unit in Muka and Kaji et al. in order to create a side flow of air for sweeping across wafers as taught by Iwai et al.

14. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muka as applied to claims 7 and 10-11 above in view of U.S. Patent No. 5,562,383 to Iwai et al.

15. Muka discloses the invention substantially as claimed and as described above.

16. However, Muka fails to teach the gas outflow unit further includes a plurality of small pipelines therein.

17. Iwai et al. teach the use of a gas blowing opening with a plurality of small pipelines for the purpose of creating a side flow of clean air for sweeping across wafers in a cassette (column 10, rows 27-35).

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18. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a plurality of small pipelines in the gas outflow unit in Muka in order to create a side flow of air for sweeping across wafers as taught by Iwai et al.

19. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,752,796 to Muka as applied to claims 7 and 10-11.

20. Muka discloses the invention substantially as claimed and as described above.

21. However, Muka fails to explicitly teach the gas pump includes an air blow drum.

5. The courts have ruled that an express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. In re Fout, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). Muka clearly states that means for providing airflow are necessary to practice the invention. A fan/pump is disclosed as the airflow means. However, one of ordinary skill in the art would realize that an "air blow drum" would be an equivalent means for providing the airflow. Applicant does not provide any insight in the specification or claims as to how/why an "air blow drum" would function any differently than the airflow means disclosed in the prior art or insight as to any benefit the "air blow drum" would have that the means disclosed in the prior art lacks. One of ordinary skill in the art would recognize the airflow means of the prior art and the "air blow drum" of the presently claimed invention are equivalent components and that substitution one for the other would be obvious.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 571.272.1440. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on 571.272.1439. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

km  
22 March 2004

*P. Hassanzadeh*  
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Primary Examiner  
Art Unit 1763